TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

MAR 21 2012

Protecting Texas by Reducing and Preventing Pollution

March 13, 2012

Mr. Gary G. Miller, Remedial Project Manager
U.S. EPA, Region 6
Superfund Division (6SF-RA)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: *Draft Exposure Assessment Memorandum*, dated January 2012
San Jacinto River Waste Pits Federal Superfund Site
Harris County, Texas

Dear Mr. Miller:

The Texas Commission on Environmental Quality (TCEQ) Remediation and Toxicology Divisions have completed review of the January 2012 Draft Exposure Assessment Memorandum. The Draft document was prepared by Integral Consulting Inc. and Anchor QEA, LLC. The TCEQ comments on the document are presented below.

2 Exposure Pathways and Scenarios

This section discusses exposure scenarios and whether or not they are considered potentially complete. As stated in previous comments from the TCEQ, please note that the Texas Risk Reduction Program (TRRP) rule does not distinguish between minor and significant pathways. If a pathway is considered to be complete, then it needs to be evaluated quantitatively.

3 Datasets and Methods for Calculation of Exposure Point Concentrations

This section discusses comparing on-site and background exposure. As stated in previous comments, it is critically important to make sure that background is appropriately characterized.

This section indicates that exposure point concentrations (EPCs) may be represented as the central tendency of the dataset for an exposure unit, or as the reasonable maximum concentration. Please note that per §350.51(l)(4) of TRRP, the exposure area for a commercial/industrial worker should be assumed to be half an acre. At an active facility, a person may demonstrate that a larger area is appropriate based on documented and verifiable worker activity pattern information. Alternatively, a person may use analytical data to demonstrate that contamination is homogeneous across a larger assumed exposure area. See §350.51(l)(4) of TRRP for additional information. Exposure area is not an issue if the maximum concentration is utilized as the EPC.

3.3 Data Treatment

This section discusses how non-detected results will be handled. Please note that TRRP §350.51(n) discusses non-detected analytical results and how they should be treated. Please revise to include calculating the toxicity equivalent quotients (TEQs) using the full value of the non-detected result to use in comparing to the other two approaches, i.e., using one-half the detection limit as one approach and using zero as the other approach. In this document and in subsequent documents, tabulate the TEQs for dioxin-like PCB congeners and dioxin and furan congeners listed in Figure 350.76(d)(2)(B) of the TRRP rule for comparison purposes.

This section also discusses evaluation of both inorganic and organic arsenic by calculating the percent of inorganic arsenic as 10 percent of the total arsenic concentration in tissue. Please note that TRRP does not distinguish between inorganic and organic arsenic. The SFo and RfD provided for inorganic arsenic and are $1.5x10^{-1}$ mg/kg-day and $3x10^{-4}$ mg/kg-day, respectively.

Pooling Data for Tissue Types

Please note that, as stated in previous comments, the calculation of site-specific Biota-Sediment Accumulation Factors (BSAFs) is important in order to be able to determine the acceptable sediment concentration to be protective of the human consumption of edible fish and shellfish. The TCEQ considers the use of BSAFs a standard methodology.

4.1 Introduction to Exposure Equations and Parameters

This section gives the equations for the three types of exposures that will be evaluated in the Baseline Human Health Risk Assessment (BHHRA). Please note that TRRP has specific equations for exposure pathways. Please see Figures 30 TAC §350.74(a) and §350.75(b)(1) for the appropriate equations. This section also discusses the exposure parameters to be used in the equations.

Please note that TRRP defines the default exposure factors for residential and commercial/industrial worker exposures. Please see Figure 30 TAC §350.74(a) for the appropriate exposure parameters.

4.2.1.2 Exposure assumptions

This section discusses the exposure assumptions for use in the BHHRA. Please note that the exposure assumptions discussed here are defined in TRRP as default exposure factors. Please see Figure 30 TAC §350.74(a) for the appropriate exposure parameters.

4.2.1.2.3 Fish and Shellfish Intake Parameters

Please note that TCEQ provides regulatory guidance on determining fish and shellfish uptake from sediment and determining a sediment protective concentration level (PCL) protective of the fish tissue risk based exposure level (RBEL); RG-366/TRRP-24. RG-366/TRRP-24 also provides an equation for the calculation of the Risk-Based Exposure Limit for human ingestion of fish tissue (Table 5-3).

4.3.2 Relative Bioavailability of Chemicals in Soils and Sediments

This section gives relative bioavailability adjustments (RBAs) for chemicals that deviate from the TRRP default of 1. Please note that in order to deviate from a TRRP default RBEL exposure factor, the criteria outlined in 30 TAC §350.74(j)(1)(C) must be met.

4.3.3 Dermal Absorption Factor for Soil and Sediment

This section gives the dermal absorption factor (ABS.d) to be used in the BHHRA. Please note that TRRP defines the ABS.d in Figure 30 TAC §350.74(c), and any deviation from the defaults must meet the criteria outlined in 30 TAC §350.74(j)(1)(B).

If you have any questions please contact Tracie Phillips at 512-239-2269, Ann Strahl at 512-239-2500, or myself at 512-239-6368.

Sincerely,

Ludmila Voskov, P.G., Project Manager
Superfund Section
Remediation Division
Texas Commission on Environmental Quality

LV/sr

cc: Vickie Reat, TCEQ
Tracie Phillips, TCEQ
Chuck Stone, TCEQ